

**RULES  
OF  
TENNESSEE DEPARTMENT OF CONSERVATION  
DIVISION OF SURFACE MINING**

**CHAPTER 0400-3-10  
BALLCLAY**

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**0400-3-10-.01 INTRODUCTION.** In addition to fulfilling all requirements of T.C.A. §§58-1540; 58-1564 and all requirements of Chapters 0400-3-1; 0400-3-6 (Regs. 1-6), the following special provisions contained in Chapter 0400-3-10 (Reg. 14) shall be adhered to by all operators of Ball Clay mines.

*Authority:* T.C.A. §58-1543. *Administrative History:* Original rule filed May 24, 1974. Amendment filed November 12, 1975; effective December 12, 1975.

**0400-3-10-.02 ACCESS ROADS**

- (1) **DEFINITION.** "Access road or haulageway" shall mean any road constructed, improved or used by the operator (except public roads) which ends at the pit or mine and which is located within the permitted area.
- (2) **PLANNING AND CONSTRUCTION.** Operators are required to plan such roads in accordance with accepted engineering standards with protection of streams by culverts where traversed. No road shall be constructed up a watercourse, or drainage channel proper, or so close to its banks that material would spill into the channel during construction, use or maintenance. The location of the proposed haulageway shall be identified on the site by visible markings at the time the reclamation and mining plan is preinspected and prior to commencement of construction.
- (3) **ABANDONMENT OF ACCESS ROADS.** If the haulageway is to remain as a permanent road, it shall be left properly surfaced and drained for minimum maintenance by the landowner. If the road will be abandoned, it shall be graded to the approximate contour of the adjacent land and sown in grasses.

*Authority:* T.C.A. §58-1543. *Administrative History:* Original rule filed May 24, 1974.

**0400-3-10-.03 OPERATION, BACKFILLING AND GRADING**

- (1) **PLANNING AND DENOTING SPOIL AREAS**
  - (a) In the mining and reclamation plan provided for in Chapter 0400-3-2, the operator will denote the area on which the spoil is to be placed and shall plan the entire operation and select the area with the aim of disturbing no more than the absolute minimum acreage and possibly to convert to productivity some acreage which otherwise might be classified as wasteland.
- (2) **MINING PROCEDURE**
  - (a) Because ball clays frequently lie in beds with many feet of overburden, it is generally necessary to strip the lens, or bed, and move the waste material offsite via scrapers, leaving the exposed Ball Clay for production over a period of many years as the trade demands. For this reason, prompt reclamation of active Ball Clay pits is not practical or feasible. Instead, operators shall take all possible measures to control both onsite and offsite damage through the proper handling of spoil material and the prompt planting of vegetation to control erosion from the spoil deposit.

(Rule 0400-3-10-.03, continued)

- (b) The adverse effects of mining must be controlled through the deposit of waste within mined-out areas of an active pit rather than through the expansion of existing spoil deposits. Operators shall determine which areas within a pit have future marketable clays and shall designate the other areas in the pit where the product is exhausted for deposit of spoil. While changing markets will alter the product picture, the industry must adjust its techniques so as to reduce the areas disturbed in the mining process.

(3) WATER CONTROL

- (a) As a move to control stream degradation and siltation in the Ball Clay mining area, all operators must adopt programs which will strictly control erosion and siltation. Since the industry is one in which reclamation concurrent with mining is not feasible, all operators shall initiate prompt revegetation programs where most needed in order to reduce erosion of spoil deposits and siltation of streams and to achieve release of bond on the spoil deposit areas.
- (b) Operators will conduct their operations so as to minimize adverse effects to streams. There shall be no mining in stream beds, and under no circumstance, whatever will access roads be constructed so as to interfere with streams. Stream crossings shall include culverts or other structures adequate to accommodate peak water flow, and such structures shall be removed at the conclusion of reclamation unless special circumstances preclude such action. Where there is potential for undue siltation, the operator shall construct either log or rock silt traps designed to reduce water velocity and permit the settlement of excess suspended matter.

(4) REGRADING

- (a) When all marketable Ball Clay in a pit is exhausted, if the ultimate use of the mined area is to be a water impoundment, the highwalls shall be reduced and graded to no more than a ten degree (10°) slope so as to blend into the surrounding topography. Then those areas above the water line shall be fertilized and sown in grasses approved by the Commissioner according to the recommendations of the County Agent.
- (b) If the reclamation plan for the mined-out areas does not include a water impoundment, the disturbed acreage shall be graded to rolling topography with no slopes exceeding twenty-eight degrees (28°) and with the final effect designed to blend naturally into the surrounding terrain. No water-collecting depressions shall be left unless they are approved impoundments contained in the approved mining and reclamation plan.
- (c) The spoil produced by removing the initial overburden from the Clay Bed shall be deposited in old mined-out areas, gullies, hollows or similar wasteland whenever possible. The spoil shall be graded to blend naturally with the surrounding terrain. The angle at the edge of the spoil piles between the spoil and the undisturbed land shall not exceed twelve degrees (12°) and no slope shall exceed twenty-eight degrees (28°).

- (5) WATER IMPOUNDMENTS. The operator may elect to impound water to provide lakes or ponds for wildlife, recreation or water supply purposes, provided such impoundments will not create conditions that will contribute to soil erosion, or stream pollution or jeopardize the health, safety or property of adjacent landowners. Impoundments must be included in the mine and reclamation plan and details concerning the size and location and the construction plans of dams, embankments and spillways must be included. The proposed impoundment must meet safety requirements of appropriate State agencies and must be approved by the State Health Department if the surface area exceeds one acre.

**Authority:** T.C.A. §58-1543. **Administrative History:** Original rule filed May 24, 1974.

**0400-3-10-.04 REVEGETATION**

- (1) **REVEGETATION PLAN.** Each operator shall submit a Revegetation Plan in accordance with T.C.A. §58-1548 and Chapter 0400-3-5 (Reg. 5). Since most of the area mined for Ball Clay or covered by spoil will be returned to farmland or pasture, no specific planting requirements are established. However, the plan must provide for stabilization of the area, as quickly as possible, after it has been disturbed in order to control erosion and siltation of streams and to return the area to productive use.
- (2) **SEEDING OF SPOIL AREAS.** Areas covered by spoil shall be fertilized and seeded with legumes and/or perennial grasses immediately after grading while the surface is still loose and scarified. If seeding is not accomplished before the soil has become hardened, mulching will be required following seeding.
- (3) **REVEGETATION OF PIT FLOOR AND WALLS**
  - (a) After completion of mining in a Ball Clay pit and regrading of the pit according to Rule 0400-3-10-.03(4) all exposed areas not to be covered by water shall be fertilized and seeded with legumes and/or perennial grasses immediately after grading while the surface is still loose and scarified. If seeding is not accomplished before the soil has become hardened, mulching will be required following the seeding.
  - (b) Steep slopes not to be used for farmland or pasture shall also be planted in trees or shrubs during the next tree-planting season.
- (4) **EVALUATION OF VEGETATION SURVIVAL**
  - (a) Inspection and evaluation of vegetation for cover and survival shall be made as soon as it is possible to determine if a satisfactory stand has been established. In no instance shall this vegetative cover check be made until after the completion of the first growing season. A revegetation evaluation report shall be prepared and filed by the inspector.
  - (b) If the regraded area is planted in row crops, the revegetation inspection may be made and the report filed as soon as the crop germination becomes evident. The Commissioner shall then cause the remainder of the bond to be released.
- (5) **STANDARDS FOR LEGUMES AND/OR PERENNIAL GRASSES.** Standards for legumes and/or perennial grasses shall require at least an eighty percent (80%) ground cover. Bare areas shall not exceed 2,500 square feet (50 feet by 50 feet) in size, nor total more than twenty percent (20%) of the area seeded unless such areas are too stony to support vegetation.
- (6) **STANDARDS FOR WOODY PLANTS.** Trees or shrubs shall be planted at a 6-foot by 6-foot spacing. Standards for woody plants shall require the survival of a minimum of six hundred (600) trees (including volunteer trees) and/or planted shrubs per acre. Distribution of stems shall be generally uniform, with no areas larger than one-fourth (1/4) acre with substandard stocking, that is, with spacing averaging more than seventy (70) square feet per stem.
- (7) **PERFORMANCE BOND RELEASE.** After the vegetative cover has been inspected and approved, the operator shall submit his final report to the Commissioner and request release of the remaining portion of the performance bond still in force. No revegetation performance bonds will be released until the approved revegetation plan has been carried out unless the Commissioner determines that further efforts toward revegetation are impractical. No revegetation plans will be considered to have been carried out until satisfactory coverage and survival have been obtained.

**Authority:** T.C.A. §58-1543. **Administrative History:** Original rule filed May 24, 1974. Amendment filed November 12, 1975; effective December 12, 1975.